

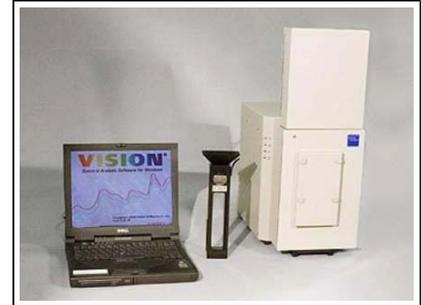
# NIR PROPELLANT ANALYZER

## Images

APE 1995  
APE 1995 Scanner

## Image Details

**APE 1995 Scanner**  
APE 1995 NIR Propellant Scanner



## Use

The APE is a portable, non-destructive, propellant stability scanner. It uses Near Infra Red spectroscopy (NIR) to analyze propellants to determine the amount of stabilizer, Percent Remaining Effective Stabilizer (%RED).

## Description

The APE1995 consists of a FOSS NIR Systems Spectrometer, Model 5000 with Sample Transport Module, a Dell Inspiron 8100 laptop computer loaded with FOSS Vision Software V. 3.05 for instrument control and chemometrics, and required cables and power cords.

The APE 1995 requires little or no sample preparation and has no chemical waste. In operation, a propellant sample, about 200 gr., is loaded in a sample cell, either shallow or deep depending on propellant type, and set into the sample transport module. The operator then initiates the sample scanning using the laptop computer. The Vision software compares the NIR output to calibrated results from that type of propellant and calculates a %RES. It then determines if the stabilizer content is sufficient to "Pass" or if it "Needs Further Testing". The "Needs Further Testing" result means that a sample of this propellant needs to be submitted to Army Propellant Surveillance Laboratory, (APSL), for chemical analysis by High Performance Liquid Chromatography (HPLC) to determine if the lot has sufficient stabilizer.

The APE 1995 is certified to scan the following propellants:

M 1  
M 6  
M 8  
M 9  
M19  
M14  
M38  
WC 872

## Differences Between Models

Original Design

## Tabulated Data

UNIT SIZES:

FOSS NIR System, Model 5000

Length.....17 in.      Width..... 11 in.  
Height..... 25 in.      Weight.....51 lbs.  
Floor Space.... 1.3 sq ft

Dell Laptop Computer

Length..... 10in.      Width..... 12.5 in.  
Height..... 11 in.      Weight..... 6 lbs.  
Floor Space.... 0.9 sq ft

Installation Required:

MUST BE INSTALLED IN ENVIRONMENTALLY CONTROLLED LOCATION WITH TEMPERATURE RANGES BETWEEN 60-90 degrees F.

RAPID RESPONSE DELUGE SYSTEM MAY REQUIRED AS PER DA PAM 385-64.

Utilities Required:

115 vac. 60 Hz, 12 amps.

Sample scanning rate:

10 - 30 per hour

### Shipping Data

Container A - containing Foss NIR

Length..... 36 in.    Width..... 21 in.  
Height..... 21 in.    Weight.....100 lbs.  
Floor Space.... 5.25 sq ft

Container B - containing Accessories

Length.....36 in.    Width..... 21 in.  
Height..... 21 in.    Weight.....75 lbs.  
Floor Space.... 5.25 sq ft

Container C - containing Computer

Length..... 20 in.    Width..... 20 in.  
Height..... 14 in.    Weight.....35 lbs.  
Floor Space.... 2.8 sq ft

Note:

Shipping weight includes foam lined hard shell shipping containers on rollers.

### Associated Equipment

None

### Kits

None